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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
WONG, BLANCHE	

ART UNIT	PAPER NUMBER
2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

VN

Office Action Summary	Application No.	Applicant(s)	
	10/712,879	KHALIL ET AL.	
	Examiner	Art Unit	
	Blanche Wong	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 November 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Examiner notes that claims 2 and 3 are identical.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a) because they fail to show payload data 350 as described in the specification on p.19. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. **Claims 8-15** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. An information packet is a communication signal and a signal is non-statutory subject matter.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. **Claims 8-10** are rejected under 35 U.S.C. 102(e) as being anticipated by O'Neill (Pub No. US2004/0047322).

With regard to claims 8,9,10, O'Neill discloses a mobile IP network **(Fig. 5)** comprising:

a home address for a mobile node **(end nodes 502,504 in Fig. 5, para. [0045])** associated with a virtual private network, said mobile node **(end nodes)** coupled to a foreign network **(communication cells 501 in Fig. 5, para. [0045])**;

a virtual private network tunnel address **(CCoA, para. [0019])** used for routing packets to a virtual private network gateway within the virtual private network;

a virtual private network gateway address **(PCCoA, para. [0015])** used to route packets transmitted to the virtual private network gateway from locations outside the virtual private network; and

a care-of-address **(CCoA, para. [0019])** designating a location of said mobile node on the foreign network.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. **Claims 1-7,11-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over O'Neill in view of Vaarala et al. (Pub No. US 2005/0177722).

With regard to claim 1, O'Neill discloses a mobile IP network **(Fig. 5)** comprising:

a corresponding node **(CN 542 in Fig. 5)** coupled to said home agent **(mobility agent node in Fig. 5)**.

However, O'Neill fails to explicitly show an information packet transmitted from the correspondence node that is encapsulated by the home agent before forwarding to the security gateway for forwarding to the mobile node; and a virtual private network having a security gateway and a home agent, wherein said mobile node is connected to a foreign network and information packets are transmitted to the mobile node from the virtual private network, and wherein said security gateway on the virtual private network is connected to said home agent.

Vaarala discloses a mobile IP network comprising:

an information packet transmitted from the correspondence node that is encapsulated **(encapsulated, para. [0014])** by the home agent before forwarding to the security gateway for forwarding to the mobile node; and

a security gateway **(SGW, para. [0015)**.

At the time of the invention, it would have been obvious to a person of ordinary skills in the art to combine an encapsulated packet and a security gateway as taught in Vaarala with O'Neill for the benefit of a firewall at the boundary of a network.

With regard to claims 2 and 3, the combination of O'Neill and Vaarala disclose the packet-based wireless communication system for communicating with a mobile node of claim 1.

Vaarala further discloses a security gateway encrypts **(encrypt, para. [0006])** the information packet.

At the time of the invention, it would have been obvious to a person of ordinary skills in the art to combine encryption as taught in Vaarala with O'Neill for the benefit of a firewall at the boundary of a network.

With regard to claim 4, the combination of O'Neill and Vaarala disclose the packet-based wireless communication system for communicating with a mobile node of claim 1. O'Neill further discloses a communication system that does not use an external home agent for forwarding the information packet to the mobile node **(PCCoA functionality is provided between the end node and the access node, does not need the assistance of the Home Agent to invoke that functionality, para. [0044])**.

With regard to claim 5, the combination of O'Neill and Vaarala disclose the packet-based wireless communication system for communicating with a mobile node of claim 1.

Vaarala further discloses an information packet that includes an address **(see IPSec in packet in Fig. 2)** for the security gateway.

At the time of the invention, it would have been obvious to a person of ordinary skills in the art to combine an address for the security gateway as taught in Vaarala with O'Neill for the benefit of a firewall at the boundary of a network.

With regard to claim 6, the combination of O'Neill and Vaarala disclose the packet-based wireless communication system for communicating with a mobile` node of claim 1.

Vaarala further discloses a virtual private network tunnel inner address **(see IPSec in packet in Fig. 2)**.

At the time of the invention, it would have been obvious to a person of ordinary skills in the art to combine a virtual private network tunnel inner address as taught in Vaarala with O'Neill for the benefit of a firewall at the boundary of a network.

With regard to claim 7, the combination of O'Neill and Vaarala disclose the packet-based wireless communication system for communicating with a mobile node of claim 1.

Vaarala further discloses a security gateway **(SGW, para. [0015)** that transmits the information packet to the home agent to forward outside the virtual private network to the mobile node.

At the time of the invention, it would have been obvious to a person of ordinary skills in the art to combine a security gateway as taught in Vaarala with O'Neill for the benefit of a firewall at the boundary of a network.

With regard to claim 11, O'Neill discloses the information packet for a packet-based communication system of claim 8. However, O'Neill fails to explicitly show the

virtual private network gateway encrypts the information packet prior to transmission to the mobile node.

Vaarala disclose and mobile IP mobile network where the virtual private network gateway encrypts **(encrypt, para. [0006])** the information packet prior to transmission to the mobile node.

At the time of the invention, it would have been obvious to a person of ordinary skills in the art to combine encryption as taught in Vaarala with O'Neill for the benefit of a firewall at the boundary of a network.

With regard to claim 12, O'Neill discloses the information packet for a packet-based communication system of claim 8. However, O'Neill fails to explicitly show the home agent appends the virtual private network tunnel inner address to the information packet to route the packet to the virtual private network gateway inside the virtual private network.

Vaarala discloses appending the virtual private network tunnel inner address **(see IPSec in packet in Fig. 2)**.

At the time of the invention, it would have been obvious to a person of ordinary skills in the art to combine appending the virtual private network tunnel inner address as taught in Vaarala with O'Neill for the benefit of a firewall at the boundary of a network.

With regard to claim 13, O'Neill discloses the information packet for a packet-based communication system of claim 8. However, O'Neill fails to explicitly show the

virtual private network appends the care-of address prior to transmitting the information packet from the virtual private network.

Vaarala discloses appending the care-of address **(binding care-of address, para. [0026])**.

At the time of the invention, it would have been obvious to a person of ordinary skills in the art to combine appending the care-of address as taught in Vaarala with O'Neill for the benefit of a firewall at the boundary of a network.

With regard to claim 14, O'Neill discloses the information packet for a packet-based communication system of claim 8. However, O'Neill fails to explicitly show the home agent appends the care-of address prior to transmitting the information packet from the virtual private network.

Vaarala discloses appending the care-of address **(binding care-of address, para. [0026])**.

At the time of the invention, it would have been obvious to a person of ordinary skills in the art to combine appending the care-of address as taught in Vaarala with O'Neill for the benefit of a firewall at the boundary of a network.

With regard to claim 15, O'Neill discloses the information packet for a packet-based communication system of claim 8. However, O'Neill fails to explicitly show the virtual private network gateway appends the virtual private network gateway address for routing packets to the virtual private network gateway.

Vaarala discloses appending the virtual private network gateway address **(see IPSec in packet in Fig. 2)**.

At the time of the invention, it would have been obvious to a person of ordinary skills in the art to combine appending the virtual private network gateway address as taught in Vaarala with O'Neill for the benefit of a firewall at the boundary of a network.

With regard to claim 16, O'Neill discloses a mobile IP network **(Fig. 5)**

providing a virtual private network associated with a mobile node **(end nodes 502,504 in Fig. 5, para. [0045])** connected to a foreign network **(communication cells 501 in Fig. 5, para. [0045])**;

forming an information packet for transmission **(data session)** to the mobile node **(end node N 504) (CN 542 operates as corresponding node in a data session with at least end node N 504, para. [0046])**; and

forwarding the information packet **(PCCoA – Proxy Colocate Care of Address)** to the mobile node without using an external home agent **(PCCoA functionality is provided between the end node and the access node, does not need the assistance of the Home Agent to invoke that functionality, para. [0044])**.

However, O'Neill fails to explicitly show providing a security gateway located on the virtual private network and connected to a home agent and a correspondence node on the virtual private network; and transmitting the information packet to the security gateway.

Vaarala discloses a mobile IP network transmitting information packet to the security gateway **(SGW) (packet routed from the originating host to a security gateway SGW, para. [0015])**.

At the time of the invention, it would have been obvious to a person of ordinary skills in the art to combine a security gateway as taught in Vaarala with O'Neill for the benefit of a firewall at the boundary of a network.

With regard to claim 17, the combination of O'Neill and Vaarala discloses the method of packet-based communication to a mobile node from a correspondence node on a virtual private network of claim 16.

Vaarala further discloses encrypting **(encrypt, para. [0006])** an encapsulated information packet at the security gateway to forward to the mobile node.

At the time of the invention, it would have been obvious to a person of ordinary skills in the art to combine encryption at the security gateway as taught in Vaarala with O'Neill for the benefit of a firewall at the boundary of a network.

With regard to claim 18, O'Neill further discloses

encapsulating the information packet at the home agent **(home mobility agent)** with an address **(PCCoA)** for the security gateway **(access node)** to use within the virtual private network to route packets to the security gateway **(forward and reverse tunneling is required using a PCCoA between the access node 505 and the home mobility agent 532, para. [0048])**.

With regard to claim 19, O'Neill further discloses

transmitting the information packet out of the virtual private network from the home agent **(forward direction, para. [0049])**.

With regard to claim 20, O'Neill further discloses

transmitting the information packet out of the virtual private network from the security gateway **(incoming direction, para. [0049])**.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Blanche Wong whose telephone number is 571-272-3177. The examiner can normally be reached on Monday through Friday, 830am to 530pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BW
May 26, 2007

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